



FEDERAL SECURITY AGENCY  
PUBLIC HEALTH SERVICE

IN REPLYING, ADDRESS THE

Tuberculosis Research Laboratory,  
411 East 69th St., New York 21, N. Y.

July 16, 1951.

Dr. Joshua Lederberg,  
Department of Genetics,  
The University of Wisconsin,  
College of Agriculture,  
Madison 6, Wisconsin.

Dear Joshua:

I was glad to hear that the visit to Wisconsin can be arranged. I plan to arrive there on Tuesday, August 7th, and shall probably stay for about a week if that is all right with you.

My plan for the things I want to do in your laboratory coincides with what you had in mind. I am interested mostly in obtaining a heterozygote  $\text{pant}^+/\text{pant}^{\text{ts}}$  which is stable enough so that it can be used for enzyme experiments.

You were correct in your statement about the lower activity of the  $\text{pant}^{\text{ts}}$  extracts. I had mentioned that to Bernie a while ago and he must have told you about it. However, lately we have obtained much more active  $\text{pant}^{\text{ts}}$  extracts. The enzyme activity of the acetone preparations varies a great deal from one preparation to another, both for the wild type and the temperature sensitive extracts. Our last few temperature sensitive preparations have been as active as some of our better wild type preparations. Although I find this variability in the acetone preparations disturbing, at the same time I think it is possible to obtain a preparation of the postulated heterozygote in which one can distinguish the two enzymes.

So far I don't have any linkage data on the  $\text{pant}^{\text{ts}}$  locus. All I know is that the  $\text{pant}^{\text{ts}}$  mutants recombine with your strains 58-161 and W-677. I have started some crosses with W-677 in the presence of  $\text{pant}$  and shall try to obtain the linkage data with the fermentation characteristics you suggested in your letter. Since these strains contain only one marker in addition to the  $\text{pant}^{\text{ts}}$  requirement, I have also started some penicillin experiments to put additional markers on these strains. As soon as I have the doubly marked strains I shall send them to you together with the singly marked ones. If you have time, I would appreciate it if you could carry out a cross to

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determine the linkage of  $\text{pant}^{\text{ts}}$ ; we could then compare notes on our data. In view of my lack of experience in doing linkage studies on K-12, this would be very valuable for me.

I am not quite sure that I understand why we have to know the position of  $\text{pant}^{\text{ts}}$  before we undertake to look for the heterozygote. The reason as I see it is that  $\text{pant}^{\text{ts}}$  may be located in the deficient region of the chromosome, near  $\text{mal}$  - or in some other region of the chromosome which does not behave normally. The way I visualize our experiments is, first, to cross a suitable  $\text{pant}^{\text{ts}}$  strain with a Het strain carrying fermentation markers, and then test the prototrophy on EMB-lactose (or other sugar) medium, and look for variegated colonies. I would appreciate it if you could outline to me your plan for these experiments in some detail as I am not sure that you have a similar procedure in mind.

I am looking forward to hearing from you.

With best regards,

Sincerely yours,

*Wern.*

Werner K. Maas

WKM/h1